

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Jan Weber et al.
Application No.: Unassigned
Date Filed: Filed herewith
Title: MEDICAL ARTICLES HAVING REGIONS WITH POLYELECTROLYTE MULTILAYER
COATINGS FOR REGULATING DRUG RELEASE
Group Art Unit: Unassigned
Examiner.: Unassigned
Atty. Docket: 03-237

INFORMATION DISCLOSURE STATEMENT (IDS)

Mail Stop Patent Application
Commissioner For Patents
P.O. Box 1450
Arlington, VA 22313-1450

SIR:

In accordance with 37 C.F.R. §1.56 and in compliance with 37 C.F.R. §§1.97 and 1.98, the references listed on attached Form PTO/SB/08 and/or subsequently identified herein, are being submitted herewith for consideration by the United States Patent and Trademark Office.

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- a. ☒ A legible copy of (i) each U.S. and foreign patents; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed, is included herewith.
- b. ☐ Any patents, publications or other information which are listed on PTO/SB/08 which are not enclosed herewith were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. §120:

U.S. Serial Number

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II. CONCISE EXPLANATION OF THE RELEVANCE (check at least one box)

- a. ☒ Except as may be indicated below in (b) of this section, all of the patents, publications or other information are in the English language (concise explanation not required).
- b. ☐ A concise explanation of the relevance of all patents, publications or other information listed that is not in the English language is as follows:
- c. ☐ The following additional information is provided for the Examiner's consideration:

III. ☐ CROSS REFERENCE TO RELATED APPLICATION(S)

The Examiner is advised that the following co-pending application(s) contain(s) subject matter that may be related to the present application. By bringing this (these) applications to the Examiner's attention, Applicant(s) does(do) not waive the confidentiality provisions of 35 U.S.C. §122.

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It is Applicant(s)' opinion that the claims presently on file patently distinguish the present invention from each of these references. The above references are being cited only in the interests of candor and without any admission that they constitute statutory prior art or contain matter which anticipates the invention or which would render the same obvious, either singly or in a combination, to a person of ordinary skill in the art.

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Respectfully submitted,



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Fax 908-518-7795

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References (US Patents/Patent Publications Omitted)
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Marjorie Scariati

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				Application Number	Unassigned
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				First Named Inventor	Jan Weber et al.
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
				Attorney Docket Number	03-237
Sheet	1	of	1		

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Examiner Signature		Date Considered	
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OTHER PRIOR ART—NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	A1	CHUNG, A.J. AND RUBNER, M.F., Methods of Loading and Releasing Low Molecular Weight Cationic Molecules in Weak Polyelectrolyte Multilayer Films, <i>Langmuir</i> 2002, 18, 1176-1183.	
	A2	FRANK CARUSO et al., Microencapsulation of Uncharged Low Molecular Weight Organic Materials by Polyelectrolyte Multilayer Self-assembly, <i>Langmuir</i> 2000, 16, 8932-8936	
	A3	GI-RA, YI et al., Ordered Macroporous Particles by Colloidal Templating, <i>Chem. Mater.</i> 2001, 13, 2613-2618	
	A4	SINGH, R.S., GRIMES, C.A., Dickey, E.C. Fabrication of nanoporous TiO ₂ films through Bernard-Marangoni convection, <i>Materials Resources Innovations</i> , 2002, 5:178-184	
	A5	CHAN, V.Z.-H et al. Ordered Bicontinuous Nanoporous and Nanorelief Ceramic Films from Self Assembling Polymer Precursors, <i>Science</i> , Nov 26, 1999, v286, i5445, p1716-1719	
	A6	SHCHUKIN, D.G. et al., Micron-Scale Hollow Polyelectrolyte Capsules with Nanosized Magnetic Fe ₃ O ₄ Inside, <i>Materials Letters</i> 57, 1743-1747, 2003.	
	A7	RADTCHENKO, I.L. et al., A Novel Method for Encapsulation of Poorly Water-soluble Drugs: Precipitation in Polyelectrolyte Multilayer Shells, <i>International Journal of Pharmaceutics</i> , 242, 219-223 (2002).	
	A8	RADTCHENKO, I.L. et al., Assembly of Alternated Multivalent Ion/Polyelectrolyte Layers on Colloidal Particles. Stability of the Multilayers and Encapsulation of Macromolecules into Polyelectrolyte Capsules, <i>Journal of Colloid and Interface Science</i> , 230, 272-280 (2000)	
	A9	WHAU, WINKY L. et al., Surface-chemistry technology for microfluidics, <i>J. Micromech. Microeng.</i> 13 (2003) 272-278	
	A10	RADTCHENKO et al., Incorporation of macromolecules into polyelectrolyte micro and nanocapsules via surface controlled precipitation on colloidal particles, <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> 202 (2002) 127-133.	

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A11	MOYA, S. et al., Polyelectrolyte multilayer capsules templated on biological cells: core oxidation influences layer chemistry, <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> 183-185 (2001) 27-40.
A12	ANTIPOV, ALEXEI A. ET AL., Polyelectrolyte multilayer capsule permeability control, <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> 198-200 (2002) 535-541
A13	QIU, XINGPING et al., Studies on the Drug Release Properties of Polysaccharide Multilayers Encapsulated Ibuprofen Microparticles, <i>Langmuir</i> 2001, 17, 5375-5380
A14	ANTIPOV, ALEXEI A. et al., Sustained Release Properties of Polyelectrolyte Multilayer Capsules, <i>J. Phys. Chem. B</i> 2001, 105, 2281-2284, October 27, 2000
A15	http://www.bmed.mcgill.ca/tabrizian/People_pages/Benjamin2.htm#COMMUNICATIONS , THIERRY, BENJAMIN, Development of new strategies for endovascular revascularization procedures, 1-7, date unknown but before the filing of this application
A16	http://people.ccmr.cornell.edu/~uli/Pages/meso-syn.html , Wiesner Research Group, Synthesis of Mesoporous Materials, 1-2, date unknown but before the filing of this application
A17	https://engineering.purdue.edu/BME/Seminars/2003/july_14_html , Graduate Seminar, Stent coating for drug delivery: Coating polymeric micelles using polyelectrolytes Purdue University Biomedical Engineering Seminar, 2003, 1-2, July 14, 2003
A18	http://www.ccmr.cornell.edu/~uli/Pages/mesoporous.html , Wiesner Research Group, Mesoporous Materials Through Self-Esteem, 1-2, date unknown but before the filing of this application
A19	http://www.hmi.de/people/chemseddine/group.htm , 1-3, date unknown but before the filing of this application
A20	http://web.mit.edu/newsoffice/nr/1999/gyroid.html , MIT researcher's intricate ceramic nanostructures have many potential uses, MIT News, 1-3, November 25, 1999
A21	https://engineering.purdue.edu/ChE/Nano/NanoChmE/NSE_Topical_2001/SynthesisandCharacterizationofNovelNanoporousMaterials2.htm , 2001, pages 1-8
A22	DINH, NAM et al., University of Santa Barbara, Magnetic Drug Targeting: A novel use of magnetic fields and magnetic particles to deliver therapeutic drugs at the desired time in the correct dosage to the correct site in the human body, pp 1-9, date unknown but before the filing of this application

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	A23	BERRY, CATHERINE C. et al., Potential Drug-Cell Delivery Routes Using Magnetic Nanoparticles, Centre for Cell Engineering, Glasgow University, European Cells and Materials Vol. 6 Suppl. 2, 2003 p 29	
	A24	http://www2.latech.edu/~ylvov/research/research.htm , LVOV, YURI M., Nanofabrication of ordered multilayers by alternate absorption of polyions, nanoparticles and proteins: From planar films to microtemplates, Institute for Micromanufacturing, LaTech, Ruston, LA 71272, pp. 1-13, date unknown but before the filing of this application.	

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